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A New Species of the Genus *Scaptognathus* (Acari: Halacaridae) from Tasmania

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安倍　弘[1)]・Jim GREEN[2)]: タスマニア産スナホリダニ属
（ダニ目：ウシオダニ科）の1新種

Abstract A new species of the genus *Scaptognathus* is described from the Bass Strait under the name of *Scaptognathus bassianus* sp. nov. The present new species is distinguished from the congeners by the unique leg chaetotaxy of bipectinate setae. Geographical distribution of the genus *Scaptognathus* is also given.

Some halacarids have been recorded from the adjacent waters of Australia and New Zealand (cf. BARTSCH 1979a, 1985, 1986a, 1989a, b, 1992a, b, 1993a, b; BRUCKER 1897; CHILTON 1883; LOHMANN 1893, 1909; LUXTON 1990a, b; NEWELL 1967, 1984; OTTO 1993, 1994; STOUT 1962; STOUT & VIETS 1959; TROUESSART 1889; WOMERSLEY 1937). In the genus *Scaptognathus*, however, merely two species have been known from the Australian waters (cf. BARTSCH, 1993b). The present paper describes a new species of the genus *Scaptognathus* on the basis of the specimens collected from a sandy sediment of a subtidal region near Tasmania, south-eastern Australia.

Scaptognathus bassianus sp. nov.

(Figs. 1–2)

Type series. Holotype: Female, Bass Strait, 1 km N. of Burnie, depth 15 m, medium-coarse sand, November, 1989, coll. R. NEWELL. Paratype: 1 female, data same as the holotype.

Type depository. The Natural History Museum, London.

Etymology. The specific name is derived from the type locality, Bass Strait.

Description. Female (holotype). Idiosoma 264 μm long, 200 μm wide; color in life unknown.

Dorsum (Fig. 1A): Dorsal plates ornamented with porous panels as shown in Fig. 1D. Areolations not clear. Anterodorsal plate 100 μm long, 120 μm wide, with weakly convex posterior margin, furnished with a pair of polygonal pores anterolaterally. Ocular plate 14 μm long, without distinct cornea. Posterodorsal

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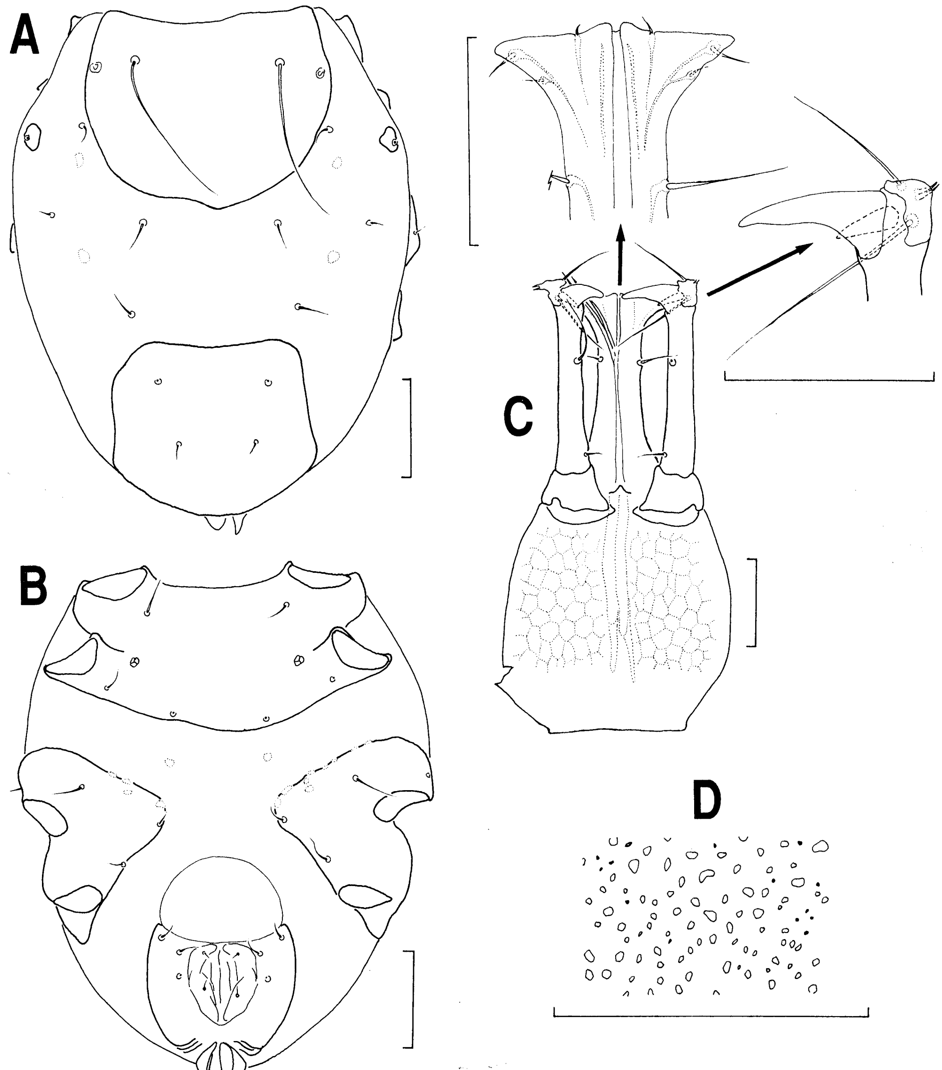


Fig. 1. *Scaptognathus bassianus* sp. nov. (holotype).——A, Idiosoma (dorsum); B, idiosoma (venter); C, gnathosoma (dorsum); D, ornamentation of dorsal plate. Scale bars = 50 μm.

plate 88 μm long, 104 μm wide, slightly wider posteriorly, anterior margin reaching a level of the insertion of leg IV.

Chaetotaxy of dorsal region: Dorsal setae filiform, short and fine except for those on anterodorsal plate; seven pairs arranged as in Fig. 1A. The first pair placed on anterodorsal plate, about 75 μm long; the second to the fifth pairs located on membranous cuticle; the sixth and the seventh pairs placed on posterodorsal

plate.

Venter (Fig. 1B): Anterior epimeral plate 72 μm long, 166 μm wide, furnished with a pair of epimeral pores between insertions of legs I and II. Posterior epimeral plate 112 μm long, subtriangular in outline.

Chaetotaxy of epimeral region: Epimeral setae fine, filiform. Three pairs on anterior epimeral plate, four setae on each posterior epimeral plate, arranged as in Fig. 1B.

Genitoanal region (Fig. 1B): Genitoanal plate 94 μm long, 78 μm wide, consisting of pars membranosum and pars sclerosum. Pars membranosum elliptical in form, 40 μm long, 60 μm wide, occupying anterior portion of genitoanal plate, perforated with many slits. Pars sclerosum concave anteriorly along pars membranosum. Genital foramen 44 μm long, 34 μm wide. Genital acetabula not resolvable. Ovipositor with several robust spines. Anal sclerites terminally placed.

Chaetotaxy of genitoanal region: Perigenital setae filiform, three pairs arranged as in Fig. 1B. Subgenital setae short, two pairs arranged 1–1. Adanal setae absent.

Gnathosoma (Fig. 1C): 246 μm long, 128 μm wide, gnathosomal length/idiosomal length 0.93. Base 126 μm long, barrel-shaped, ornamented with porous panels. Pharyngeal plate unclear. Anterior margin of tectum sharply convex. Rostrum 120 μm long, 56 μm wide at terminal flare, furnished with one pair of minute setae on terminal margin, two pairs at ventrolateral portions of flare, and one pair of long setae on rostral shaft. Rostral sulcus extending to a level of palpal insertion. Chelicera styliform. Palp 128 μm long. The first segment without setae. The second segment with one short filiform seta dorsoproximally, one long filiform seta distidorsally. The third and the fourth segments fused into one terminal segment, furnished with two anterior blade-like projections (dorsal one larger than ventral one), two long filiform setae (proximal one longer than terminal one), and two distiventral spiniform setae.

Legs (Fig. 2A–D): Length of legs I, II, III, IV=230, 182, 214, 218 μm, respectively. Ornamentation not distinct. Lateral claws having tiny accessory teeth, without combs. Cavity in claw present. Median claw not developed. Fossary lamella and carpite absent. Parambulacral setae all euphathidia.

Chaetotaxy as in Table 1 (Solenidion, famulus, and parambulacral setae excluded).

Bipectinate setae as in Table 2.

Tarsus I with three dorsal filiform setae, one ventral bipectinate seta, one solenidion, one famulus, and two divaricate parambulacral setae. Solenidion and famulus bacilliform on posterior surface. Tarsus II with three dorsal filiform setae, one ventral bipectinate seta, one dorsal bacilliform solenidion, and two single parambulacral setae. Tarsi III and IV each with three dorsal filiform setae, and two fine parambulacral setae.

Morphological variations. The size of idiosoma and gnathosoma of the paratype is as follows: Idiosoma 272 μm long, 192 μm wide; gnathosoma 248 μm long, 134 μm wide. The leg chaetotaxy varies as follows: Genua I–IV, (4, 5)–(4, 5)–3–3; tibiae I–IV, (8–10)–7–7–7; bipectinate setae on tibiae I–IV, (4–6)–4–4–4.

Remarks. The noticeable features of *Scaptognathus bassianus* sp. nov. are that 1) gnathosomal length/idiosomal length is 0.91–0.93, 2) the second pair of dorsal

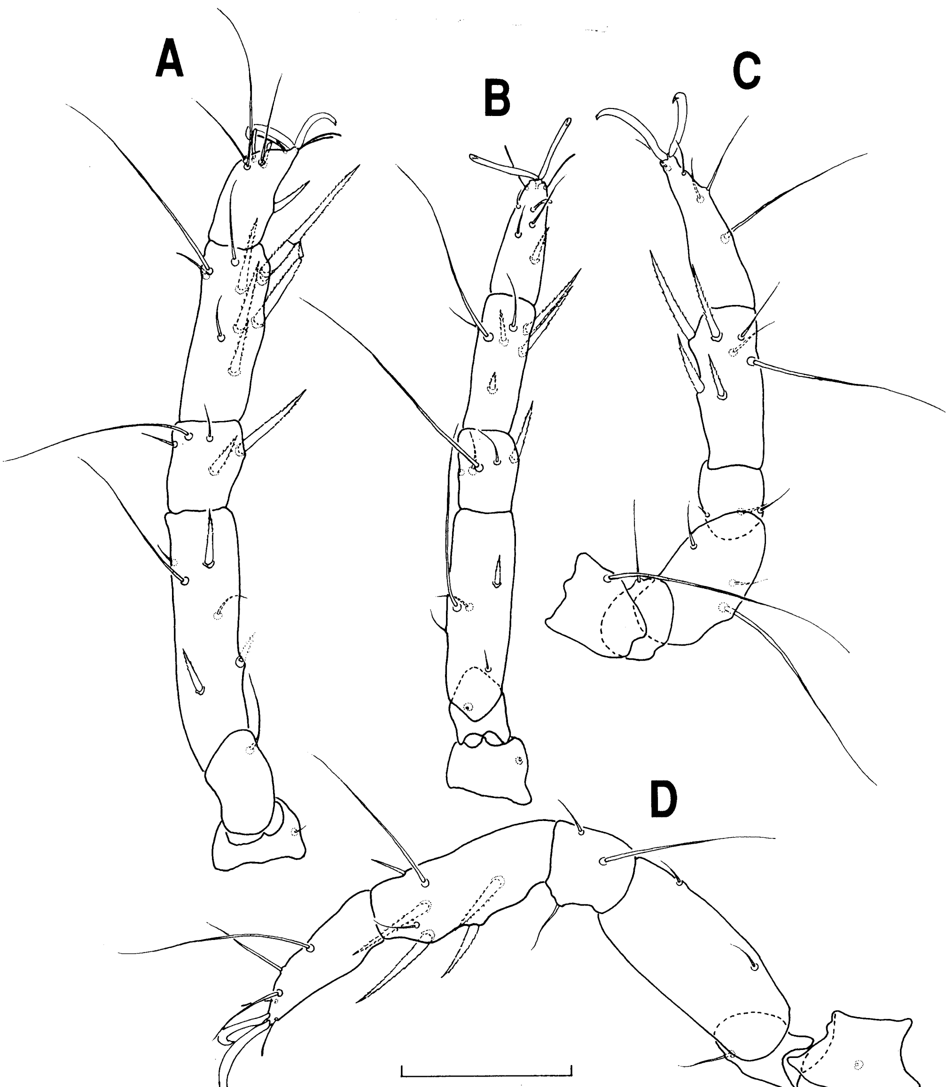


Fig. 2. *Scaptognathus bassianus* sp. nov. (holotype).——A, Leg I (left); B, leg II (left); C, leg III (right); D, leg IV (right). Scale bar = 50 μm.

setae is placed on membranous cuticle, 3) genitoanal plate of female is bipartite bearing three pairs of perigenital setae, 4) median claw is not developed, 5) leg chaetotaxy of bipectinate setae from the first to the fourth legs is 1–1–0–0 in tarsi, (4–6)–4–4–4 in tibiae, 2–1–0–0 in genua, and 3–1–0–0 in telofemora. In these character states, the leg chaetotaxy of bipectinate setae on tibiae and telofemora is regarded to be unique in this genus.

Table 1. Leg chaetotaxy of *Scaptognathus bassianus* sp. nov., ♀ holotype.

Leg	Trochanter	Basifemur	Telofemur	Genu	Tibia	Tarsus
I	1	1	6	5	10	4
II	1	1	5	5	7	4
III	1	1	3	3	7	3
IV	1	1	2	3	7	3

Table 2. Leg chaetotaxy of bipectinate setae of *Scaptognathus bassianus* sp. nov., ♀ holotype.

Leg	Trochanter	Basifemur	Telofemur	Genu	Tibia	Tarsus
I	0	0	3	2	6	1
II	0	0	1	1	4 (1 short)	1
III	0	0	0	0	4	0
IV	0	0	0	0	4	0

Scaptognathus bassianus sp. nov. resembles *S. ornatus* BARTSCH, 1984 in general respects. However it differs from *S. ornatus* in the leg chaetotaxy of bipectinate setae.

Among *Scaptognathus* species recorded from the Southern Pacific and Indian Oceans, *Scaptognathus bassianus* sp. nov. is most related to *S. punctatus* which was described from Mozambique Channel by BARTSCH (1981). But *S. bassianus* sp. nov. can be easily distinguished from *S. punctatus* by having three pairs of perigenital setae in the female and the leg chaetotaxy of bipectinate setae.

Distribution. The global distribution of the 22 so far described *Scaptognathus* species, including the present new species, is given in Table 3 and Fig. 3. Some unnamed species from the Solomon Is. (cf. CHALLIS, 1969) and the Great Meteor Tablemount (cf. BARTSCH, 1973) are not included.

The genus is said to be exclusively arenicolous, and members have been found from the intertidal down to the subtidal zone at a depth of more than 700 m (cf. BARTSCH, 1989c). The presence of the genus depends upon sand interstices of a suitable size. Coarse sand with a grain size of more than 1 mm is the typical habitat, and any heterogeneity in the geographical distribution of *Scaptognathus* species can be related to a rather strict confinement to this habitat.

The genus *Scaptognathus* has been recorded from all the oceans apart from the Arctic and Antarctic. The lack of records from both polar regions is likely to be due to a lack of appropriate collections rather than a true absence.

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Table 3. Geographical records of the species in the genus *Scaptognathus*.

Oceanic region	Species	District (No. in Fig. 3)	Depth	References
Eastern Pacific	*S. gibbosus* BARTSCH	Balthoromé, Santa Cruz (2)	Inter-, subtidal zone	BARTSCH, 1977
	S. kunzi BARTSCH	Kawaihae Bay (1)	Intertidal zone	BARTSCH, 1988
	S. monnioti NEWELL	Tierra Azul (4)	Intertidal zone	NEWELL, 1984
	S. newelli BARTSCH (=*S. punctatus* NEWELL)	Viña del Mar, Valparaíso (5)	Intertidal zone	NEWELL, 1984
	S. pacificus NEWELL	Robinson Crusoe Is. (3)	210 m	NEWELL, 1971
	S. pauciporus BARTSCH	Fernandina, Isabela, Tower, Santa Cruz, Barrington, Floreana, San Cristóbal (2)	Inter-, subtidal zone	BARTSCH, 1977
Western Pacific	*S. bassianus* n. sp.	Burnie (22)	15 m	Present study
	S. magnus ABÉ	Hokkaido (20)	10 m	ABÉ, 1990b
	S. teuriensis ABÉ	Hokkaido (20)	10 m	ABÉ, 1990b
	S. trianguis BARTSCH	Cape d'Aguilar (19)	Intertidal zone	BARTSCH, 1991
	S. ventridiscus ABÉ	Hokkaido (20)	Intertidal zone	ABÉ, 1990a
Indian Ocean	*S. australis* BARTSCH	Duffield Ridge (21)	30 m	BARTSCH, 1993b
	S. gibbosus BARTSCH	Sar Uanle (17)	Intertidal zone	MORSELLI & MARI, 1986
	S. hallezi TROUESSART	Waltair (18)	Intertidal zone	RAO & GANAPATI, 1968
	S. minutus BARTSCH	Mozambique Channel (16)	330～770 m	BARTSCH, 1982
	S. peregrinus BARTSCH	Salmon Point (21)	1.5 m	BARTSCH, 1993b
	S. punctatus BARTSCH	Zélée Bank (16)	18～24 m	BARTSCH, 1981
		Mozambique Channel (16)	110～440 m	BARTSCH, 1982
	S. pusillus BARTSCH	Mozambique Channel (16)	450 m	BARTSCH, 1982
Eastern Atlantic	*S. hallezi* TROUESSART	Pas-de-Calais (8)	57～75 m	TROUESSART, 1894a

		Îles Chausey, Granville (8)	1 ~ 9 m	Trouessart, 1894b (Gadeau de Kerville, 1894)
		Roscoff (8)	18 m	Monniot, 1964
	S. minutus Bartsch	Josephine Seamount, Great Meteor Tablemount (10, 11)	216 ~ 530 m	Bartsch, 1973
	S. tridens Trouessart	Baie de Morlaix, Roscoff (8)	7 ~ 13 m	Bartsch, 1979b
		Roscoff (8)	18 m	Monniot, 1964
		Le Croisic (9)	Subtidal zone	Trouessart, 1889
		Pas-de-Calais (8)	6 m	Trouessart, 1894a
		French Atlantic coast (8, 9)	Subtidal zone	Lohmann, 1893
		Plymouth (8)	13 m	Spooner, 1959
	S. trouessarti Halbert	Dingle Bay (7)	35 ~ 39 m	Halbert, 1915
Mediterranean	*S. hallezi* Trouessart	Marseille (12)	11 ~ 45 m	Bartsch, 1986b
	(=*S. neretinus* sensu Morselli & Mari)	Puglia (14)	Subtidal zone	Morselli & Mari, 1981
	S. sabularius André	Banyulus-sur-Mer (12)	5 ~ 15 m	André, 1961
			4 ~ 8 m	Monniot, 1962
		Marseille (12)	16 ~ 37 m	Bartsch, 1986b
		Piombino, Golfo di Napoli (13)	Intertidal zone	Morselli & Mari, 1982
		Euboea (15)	Intertidal zone	Travé, 1972
	S. tereninus Bartsch	Marseille (12)	11 ~ 45 m	Bartsch, 1986b
	(=*S. hallezi* sensu Morselli & Mari)	Piombino (13)	2 ~ 35 m	Morselli & Mari, 1984
	S. tridens Trouessart	Marseille (12)	17 m	Bartsch, 1986b
Caribbean Sea	*S. ornatus* Bartsch	Los Testigos, Vieques (6)	Intertidal zone	Bartsch, 1984

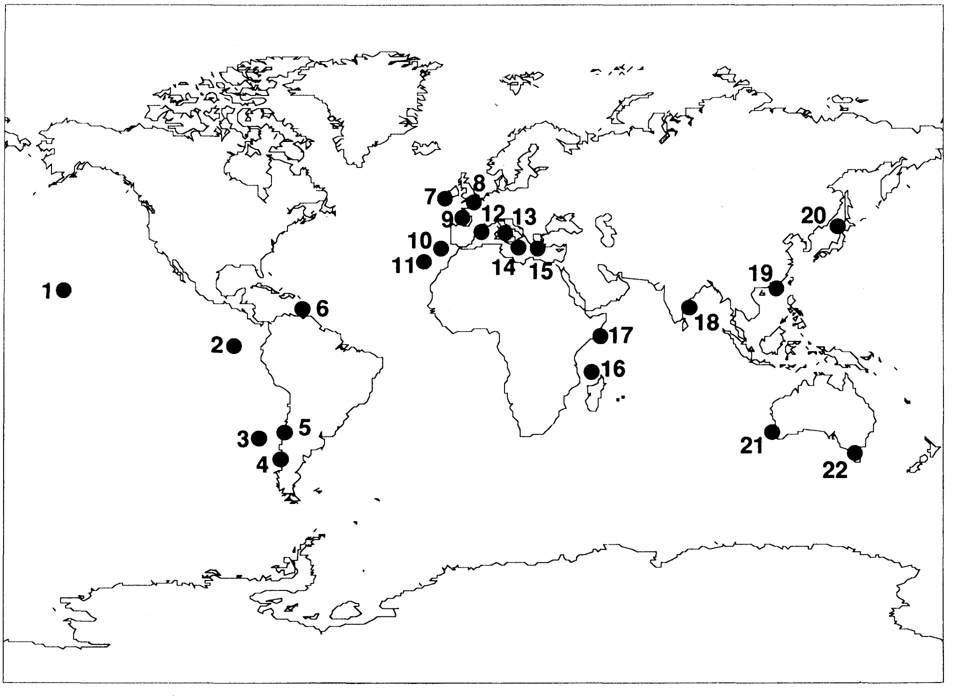


Fig. 3. Distribution of the *Scaptognathus* species.——1. Hawaiian Islands (Kawaihae Bay), 2. Galápagos Islands (Fernandina, Isabela, Tower, Santa Cruz, Bartholomé, Barrington, Floreana, San Cristóbal), 3. Juan Fernández Islands (Robinson Crusoe Is.), 4. Puerto Montt (Tierra Azul), 5. Viña del Mar, Valparaiso, 6. West Indies (Los Testigos, Vieques), 7. Dingle Bay, 8. English Channel (French coast: Pas-de-Calais, Îles Chausey, Granville, Morlaix, Roscoff; English coast: Plymouth), 9. Bay of Biscay (Le Croisic), 10. Josephine Seamount, 11. Great Meteor Tablemount, 12. Golfe du Lion (Marseille, Banyulus-sur-Mer), 13. Tyrrhenian Sea (Piombino, Golfo di Napoli), 14. Ionian Sea (Puglia), 15. Aegean Sea (Euboea), 16. Mozambique Channel (Zélée Bank), 17. Somalian coast (Chisimayu [Sar Uanle]), 18. Bay of Bengal (Waltair), 19. Hong Kong (Cape d'Aguilar), 20. Japan Sea (Hokkaido), 21. Rottnest Island (Duffield Ridge, Salmon Point), 22. Bass Strait (Burnie).

摘　要

タスマニアのバス海峡から得られたスナホリダニ属の1新種を *Scaptognathus bassianus* と命名して記載した．本種は脚の末腿節と脛節に存在する羽状毛の数によって同属の他種と容易に区別できる．また，本種を含めこれまで記載されたスナホリダニ属22種の地理分布ならびに生息域を記した．

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